

IN THE CLAIMS

The following listing reflects the current version of all claims, and replaces all earlier versions and listings.

Claim 1. (Currently Amended) A solid-state image pickup device comprising a plurality of photoelectric conversion elements and a plurality of switching elements, characterized in that ~~the~~ each photoelectric conversion element is formed above at least one switching element, and a shielding electrode layer is disposed between the switching elements and the photoelectric conversion elements.

Claim 2. (Original) A solid-state image pickup device according to claim 1, wherein one photoelectric conversion element and one or more switching elements are disposed in one pixel.

Claim 3. (Currently Amended) A solid-state image pickup device according to claim 1 or 2, wherein ~~the~~ each photoelectric conversion element has a photoelectric conversion layer, and the photoelectric conversion layer includes an insulating layer, a semiconductor layer, and a high impurity concentrated semiconductor layer.

Claim 4. (Currently Amended) A solid-state image pickup device according to claim 1 or 2, wherein ~~the~~ each photoelectric conversion element has a photoelectric conversion layer, and the photoelectric conversion layer includes a first high impurity

concentrated semiconductor layer of one conductivity type, a semiconductor layer, and a second high impurity concentrated semiconductor layer of a conductivity type opposite to the one conductivity type of the first high impurity concentrated semiconductor layer.

Claim 5. (Currently Amended) A solid-state image pickup device according to any one of claims 1 to ~~4~~ 2, wherein the shielding electrode layer is not formed above a signal line connected to one of a source electrode and a drain electrode of the switching element.

Claim 6. (Currently Amended) A solid-state image pickup device according to any one of claims 1 to ~~5~~ 2, wherein the shielding electrode layer is held at a constant electric potential.

Claim 7. (Original) A solid-state image pickup device according to claim 6, wherein the shielding electrode layer is grounded.

Claim 8. (Currently Amended) A solid-state image pickup device according to any one of claims 1 to ~~7~~ 2, wherein each of the switching elements is constituted by a TFT, and the shielding electrode layer is disposed so as to cover an upper portion of a channel of each of the TFTs.

Claim 9. (Original) A solid-state image pickup device according to claim 8, wherein the shielding electrode layer has a width equal to or smaller than a channel width of the TFT and is disposed so as to cross a TFT driving wiring.

Claim 10. (Currently Amended) A solid-state image pickup device according to any one of claims 1 to 9 2, wherein the shielding electrode layer is made of a high melting point metal.

Claim 11. (Original) A solid-state image pickup device according to claim 10, wherein the shielding electrode layer is made of molybdenum (Mo), chromium (Cr), titanium (Ti), tungsten (W), or molybdenum-tungsten (MoW).

Claim 12. (Original) A solid-state image pickup device according to claim 1, wherein the shielding electrode layer is an electrode layer thinner than each of a gate electrode layer, a source/drain electrode layer, and a sensor biasing electrode layer.

Claim 13. (Original) A solid-state image pickup device according to claim 1, wherein the solid-state image pickup device includes a gate electrode layer, a gate insulating layer, a first amorphous semiconductor layer, a first n type semiconductor layer, a source/drain electrode layer, a first interlayer insulating layer, the shielding electrode layer, a second interlayer insulating layer, a sensor lower electrode layer, an insulating

layer, a second amorphous semiconductor layer, a second n type semiconductor layer, a transparent electrode layer, and a sensor biasing electrode layer.

Claim 14. (Original) A solid-state image pickup device according to claim 13, wherein one photoelectric conversion element and one or more TFTs are disposed in one pixel.

Claim 15. (Currently Amended) A radiation image pickup device, characterized in that a wavelength conversion unit is disposed above ~~the~~ each photoelectric conversion element in the solid-state image pickup device as claimed in any one of claims 1 to 9 2.

Claim 16. (Original) A radiation image pickup device according to claim 15, wherein one photoelectric conversion element and one or more switching elements are disposed in one pixel.

Claim 17. (Original) A radiation image pickup device comprising a radiation conversion layer for directly converting radiation into electric charges, and a plurality of switching elements, characterized in that the radiation conversion layer is formed above one or more switching elements, and a shielding electrode layer is disposed between the switching elements and the radiation conversion layer.

Claim 18. (Original) A radiation image pickup device according to claim 17, wherein the radiation image pickup device includes a gate electrode layer, a gate insulating layer, a first amorphous semiconductor layer, a first n type semiconductor layer, a source/drain electrode layer, a first interlayer insulating layer, the shielding electrode layer, a second interlayer insulating layer, a sensor lower electrode layer, a radiation conversion layer, and a sensor biasing electrode layer.